

EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

PUBLICATION NUMBER : 63066983
PUBLICATION DATE : 25-03-88

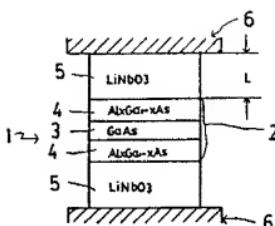
APPLICATION DATE : 09-09-86
APPLICATION NUMBER : 61210584

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INT.CL. : H01S 3/103

TITLE : METHOD AND APPARATUS FOR
FREQUENCY MODULATION
SEMICONDUCTOR LASER



ABSTRACT : PURPOSE: To accurately and simply obtain a variation in a thickness of an active layer of a semiconductor laser by electrically controlling the thickness of the active layer of the laser by utilizing the piezoelectric property of a crystal having a piezoelectric property.

CONSTITUTION: The thickness of the active layer 3 of a semiconductor laser 2 is electrically controlled by utilizing the piezoelectric property of a crystal 5 having a piezoelectric property to modulate the frequency of the laser 2. For example, when a double hetero junction type $\text{Al}_x\text{Ga}_{1-x}\text{As}$ semiconductor is used as the laser 2 and LiNbO_3 is used as a piezoelectric crystal 5 to form a semiconductor laser element 1, the crystal 5 is integrated with the laser 2 by epitaxial growth or bonding. The element 1 is interposed between a pair of holding jigs 6, and the thickness of the crystal 5 is controlled to maintain a predetermined interval at the jigs 6 to modulate the frequency of the laser oscillation light.

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